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Monopole II

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See Unified Absolute Relativity Theory at:

http://www.wbabin.net/saraiva/saraiva105.pdf

Force between two monopoles:

$$F = i\frac{{q_m}^2}{\mu_0 R^2} \quad ; \quad R = \frac{N^2 x}{\pi} \quad ; \quad N \approx 1$$

q_m -- Magnetic charge (Weber); μ_0 -- Vacuum permeability
R – Radius; x – Wavelength

Unified force:

$$F = \frac{khf^4}{c^2 w}$$

k – Saraiva's constant; h – Planck's constant
f – Frequency; c – Light speed; w – Particle field speed

$$q_m = \frac{h}{2q_e} \quad ; \quad q_e \text{ -- Electric charge}$$

$$\Leftrightarrow \qquad i\frac{h\pi^2}{4{q_e}^2\mu_0} = \frac{kcx}{(k+x^2)^{3/2}} \qquad \Leftrightarrow$$

$$\Leftrightarrow \qquad x = i1.361\times10^{-17}\,m \; ; \quad w = i1.65\times10^{9} \; ; \quad f = 1.2124\times10^{26}$$

Energy and mass:

$$E = i91.1GeV \quad ; \quad m = -2.95\times10^{-26}\,kg$$

The energy of the monopole is equal to the energy of the Z boson. It is a longitudinal particle with negative mass.

Binding energy of two monopoles:

$$E = FR = \frac{h^2 \pi}{4\mu_0 x q_e^{\ 2}} = 4.9TeV$$

Lorentz forces:

Magnetic force:

$$F_M = \frac{q_m B}{\mu_0} \quad ; \qquad B = c \ \text{(B = Magnetic field = Light speed)}$$

Electric force:

$$F_E = q_e E \ ; \quad E = c^2 \ \text{(E = Electric field = Squared light speed)}$$

$$\frac{F_M}{F_E} = \frac{h}{2q_e^{\ 2}\mu_0 c} = 137.036/4$$